

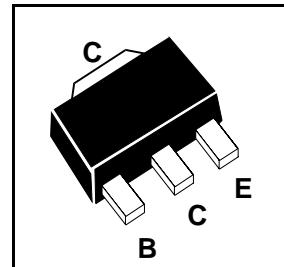
**SOT89 PNP SILICON POWER  
(SWITCHING) TRANSISTOR**  
ISSUE 3 - OCTOBER 2005

**FCX790A**

**FEATURES**

- \* 2W POWER DISSIPATION
- \* 6A Peak Pulse Current
- \* Excellent  $H_{FE}$  Characteristics
- \* Low Saturation Voltages

Partmarking Detail - 790



**ABSOLUTE MAXIMUM RATINGS.**

PARAMETER	SYMBOL	VALUE	UNIT
Collector-Base Voltage	$V_{CBO}$	-50	V
Collector-Emitter Voltage	$V_{CEO}$	-40	V
Emitter-Base Voltage	$V_{EBO}$	-5	V
Peak Pulse Current **	$I_{CM}$	-6	A
Continuous Collector Current	$I_C$	-2	A
Power Dissipation at $T_{amb}=25^\circ\text{C}$	$P_{tot}$	1 † 2 ‡	W W
Operating and Storage Temperature Range	$T_j; T_{stg}$	-55 to +150	°C

† recommended  $P_{tot}$  calculated using FR4 measuring 15x15x0.6mm

‡ Maximum power dissipation is calculated assuming that the device is mounted on FR4 substrate measuring 40x40x0.6mm and using comparable measurement methods adopted by other suppliers.

\*\*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤ 2%

Spice parameter data is available upon request for these devices

Refer to the handling instructions when soldering surface mount components.

# FCX790A

## ELECTRICAL CHARACTERISTICS (at $T_{amb} = 25^\circ C$ )

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	CONDITIONS.
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	-50			V	$I_C=-100\mu A$
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	-40			V	$I_C=-10mA^*$
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	-5			V	$I_E=-100\mu A$
Collector Cut-Off Current	$I_{CBO}$			-0.1	$\mu A$	$V_{CB}=-30V$
Emitter Cut-Off Current	$I_{EBO}$			-0.1	$\mu A$	$V_{EB}=-4V$
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$			-250 -350 -450	mV mV mV	$I_C=-0.5A, I_B=-5mA^*$ $I_C=-1A, I_B=-10mA^*$ $I_C=-2A, I_B=-50mA^*$
Base-Emitter Saturation Voltage	$V_{BE(sat)}$			-0.9	V	$I_C=-1A, I_B=-10mA^*$
Base-Emitter Turn-On Voltage	$V_{BE(on)}$		-0.8		V	$I_C=-1A, V_{CE}=-2V^*$
Static Forward Current Transfer Ratio	$h_{FE}$	300 250 200 150		800		$I_C=-10mA, V_{CE}=-2V$ $I_C=-500mA, V_{CE}=-2V^*$ $I_C=-1A, V_{CE}=-2V^*$ $I_C=-2A, V_{CE}=-2V^*$
Transition Frequency	$f_T$	100			MHz	$I_C=-50mA, V_{CE}=-5V$ $f=50MHz$
Input Capacitance	$C_{ibo}$		225		pF	$V_{EB}=-0.5V, f=1MHz$
Output Capacitance	$C_{obo}$		24		pF	$V_{CB}=-10V, f=1MHz$
Switching Times	$t_{on}$ $t_{off}$		35 600		ns ns	$I_C=-500mA, I_{B1}=-50mA$ $I_{B2}=-50mA, V_{CC}=-10V$

\*Measured under pulsed conditions. Pulse width=300μs. Duty cycle ≤2%

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## TYPICAL CHARACTERISTICS

